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HIGH COERCIVITY PERPENDICULAR MAGNETIC RECORDING MEDIA ON POLYMER SUBSTRATES

ABSTRACT OF THE DISCLOSURE

A method of manufacturing a perpendicular magnetic recording medium, comprises steps of:

(a) providing a substrate of an amorphous thermoplastic polymer material having softening and glass transition temperatures as low as about 95 °C; and

(b) forming at least one stack of thin film layers atop at least one surface of the substrate, the at least one layer stack including at least one granular magnetic recording layer of perpendicular type, wherein oxides and/or nitrides provide physical de-coupling of adjacent magnetic grains; and wherein each of the thin film layers is formed by depositing at a substrate temperature not greater than about 70 °C, and the coercivity (H_c) of the resultant perpendicular magnetic recording medium is at least about 4,000 Oe.